Tempe Fire Department Policies and Procedures
Circular Saw
405.06
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PURPOSE

The Tempe Fire Department carries circular saws on all ladder companies for use in ventilation and forcible entry. This procedure provides technical information about these tools and guidelines for their use and maintenance.

PROCEDURE

When operating power equipment under emergency conditions, accident potential is high due to adverse operational conditions. A slight miscalculation or sudden unplanned move can result in a serious accident. Training coupled with the use of common sense and the strict adherence to safety procedures can prevent accidents.

CHARACTERISTICS

Description: 12-inch blade, 6,000 RPM (blade speed), circular saw.

Engine: Two-cycle, gasoline powered, air cooled. Can be operated in any position.

Maximum depth of cut: Four inches.

Cutting blades: Three types:

- Wood (carbide tip).
- Steel (aluminum oxide).
- Concrete/Masonry (silicon carbide).

Full Capacity: One quart; equal to 30 minutes of operation

PERSONNEL PROTECTION

Full protective clothing shall be worn by those members operating and by those members in close proximity to the operation of power saws.

The face shield shall be in position to provide eye protection.

To prevent accidents caused by moving belts, gears, chains, blades, etc., it is imperative that operator and guide have their clothing completely buttoned up and close fitting.

OPERATION

Carry the rescue saw with the engine stopped, the blade frontward, and muffler away from body.

Keep both hands on the control handles when operating the saw. Use a firm grip with thumbs and fingers encircling the saw handles. The saw should not be extended beyond the comfortable reach of the operator.

Make sure of footing before operating the saw.

Cutting operations should be carried out by a team of two firefighters; the one operating the saw will be assisted by a second guiding the operator. During the cutting operations, the guide should maintain a tight grip on the operator's outer garment and depend upon hand signals for control.

The saw shall always be shut down when unattended.

Have a plan of action before putting the saw into operation. The plan should include:

A. Location and sequence of cuts and openings.

B. Pre-planned escape routes. The plan should provide for at least two means of egress if possible.

Whenever possible, an officer should be present to supervise cutting operations and to assure compliance with safety procedures.

Always place the safety guard in the proper position to provide protection for the use intended before operating the saw.

Operating a power saw above chest height is extremely hazardous and should not be attempted as a normal course of action. This type of operation shall be conducted only under the direct order and/or under the supervision of an officer. The officer ordering this operation shall weigh heavily the value gained against the extreme hazard to personnel.

The use of a power saw from ladders is not recommended if there are alternatives.

When operating close to highly combustible or flammable materials, use care to prevent ignition from sparks. Do not operate saws in suspected flammable/explosive atmospheres.

Do not force the saw. Bring the blade up to full speed (6,000 RPM), then lower to material to be cut. Apply light pressure to make cut.

Side pressure or twisting of the blade when operating a rescue saw should be avoided. The saw should never be forced. If too much pressure is applied to the blade, the hazard of blade breakage (carbide tipped) or blade shattering (aluminum oxide or silicon carbide discs) is increased. A blade which breaks or shatters during cutting operations may cause serious injury to the operator or to others in the area.

The saw cut should be only as deep as necessary. Deep cuts may weaken supporting beams and lead to collapse. The experienced operator will know when he has reached a beam by the sound and feel of the saw.

If conditions permit, scrape gravel and debris from the path to be cut in order to reduce the danger of injury from flying chips and loose materials.

During steel and concrete cutting operations, sparks and dust may be a problem. Directing a fine spray of water upon the material to be cut will control sparks and dust.

FUELING AND MAINTENANCE PRECAUTIONS

Observe all safety regulations on the safe handling of fuel. When necessary to refuel, comply with the following:

A. The saw should never be refueled while the engine is running.
B. If fuel is spilled while refueling, wipe off saw before starting.
C. Do not operate the saw if there is a fuel leak, send it in for servicing.
D. Do not refuel the saw in a small enclosed space.

Always keep equipment in good, clean, serviceable condition, free of dirt and debris.

Examine the rescue saw cutting wheel for nicks or defects at the beginning of each shift and after each use.

Clean the wheel (blade) and both wheel washers when installing the wheel. Wheel blotters must be used between washers and wheel to compensate for irregularities in the wheel.

Care must be taken to assure that the abrasive saw blades do not become contaminated with petroleum based products. Such contamination may dissolve the resin which is used to bond the blade, causing the blade to shatter when use. New blades should be stored in plastic bags to insure cleanliness.

Wipe saw with solvent on a rag to clean. Do not use hot water washer or hose down unit to clean.

Check and maintain proper belt tension.

Start and operate engine daily.

On a weekly basis, the saw should be inspected for damage or malfunction. Screws, nuts and bolts should be tightened. Check controls, starter rope, belts, and pulley for proper function. Clean air filter.

Replace spark plug as required.

Proper fuel/oil mixture should be per oil manufacturer specifications.